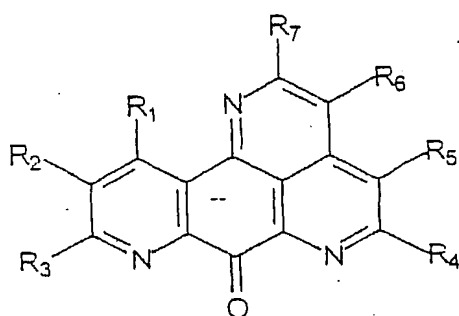


AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

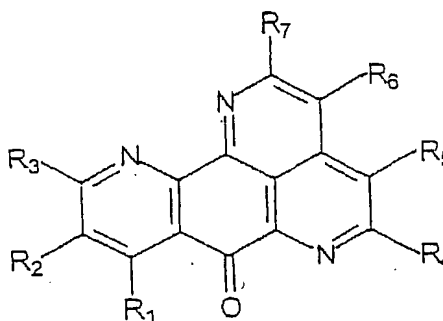
LISTING OF CLAIMS:

1. (currently amended) Compounds of formulae:



Formula I

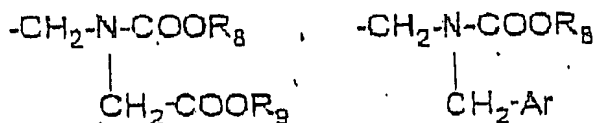
and



Formula Ia

in which:

R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub> and R<sub>5</sub> are selected from hydrogen, halogens, C<sub>1</sub>-C<sub>6</sub> alkyl groups, hydroxyl, -CHO, -OR<sub>8</sub>, -COOH, -CN, -CO<sub>2</sub>R<sub>8</sub>, -CONHR<sub>8</sub>, -CONR<sub>8</sub>R<sub>9</sub>, -NH<sub>2</sub>, -NHR<sub>8</sub>, -N(R<sub>8</sub>)<sub>2</sub>, -NH-CH<sub>2</sub>-CH<sub>2</sub>-N(CH<sub>3</sub>)<sub>2</sub>, -NH-CH<sub>2</sub>-CH<sub>2</sub>-Cl, -NHCOR<sub>8</sub>, morpholino, nitro, SO<sub>3</sub>H,



R<sub>8</sub> and R<sub>9</sub> being selected from C<sub>1</sub>-C<sub>6</sub> alkyl groups and phenyl (C<sub>1</sub>-C<sub>4</sub>) alkyl groups and Ar being a C<sub>6</sub>-C<sub>14</sub> aryl group,

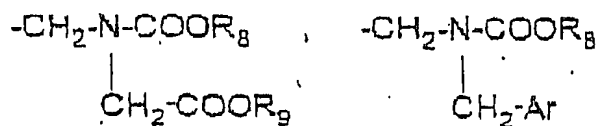
-  $R_6$  is selected from hydrogen, halogens,  $C_1$ - $C_6$  alkyl or  $-(CH_2)_nR_{10}$  groups with  $R_{10}$  being selected from halogens or  $-OH$ ,  $(C_1$ - $C_6)$  alkoxy or  $-O-CO-(C_1$ - $C_6)$  alkyl groups and  $n$  between 1 and 6,  $-CN$ ,  $-CO_2Et$  or  $-COR_{11}$  groups with  $R_{11}$  being selected from  $C_1$ - $C_6$  and phenyl ( $C_1$ - $C_4$ ) alkyl groups, and  $-NR_{12}R_{13}$  groups with  $R_{12}$  and  $R_{13}$  selected, independently of one another, from hydrogen or  $C_1$ - $C_6$  alkyl, phenyl ( $C_1$ - $C_4$ ) alkyl or  $-(CH_2)_nR_{14}$  groups with  $R_{14}$  being selected from halogens or  $(C_1$ - $C_6)$  alkoxy and  $-N(CH_3)_2$  groups and  $n$  between 1 and 6,

-  $R_7$  is selected from hydrogen,  $(C_1$ - $C_6)$  alkyl, phenyl ( $C_1$ - $C_4$ ) alkyl,  $-NR_{15}R_{16}$  with  $R_{15}$  and  $R_{16}$  selected, independently of one another, from hydrogen, ~~groups of type~~  $C_1$ - $C_6$  alkyl and phenyl ( $C_1$ - $C_4$ ) alkyl and  $-(CH_2)_nR_{17}$ , with  $R_{17}$  selected from hydrogen, halogens or  $-OH$  or  $(C_1$ - $C_6)$  alkoxy groups and  $n$  between 1 and 6,

and the addition salts of these compounds with pharmaceutically acceptable acids.

2. (previously presented) Compounds according to claim 1, which are compounds of formulae I or Ia in which:

$R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$  and  $R_5$  are selected from hydrogen, halogens,  $C_1$ - $C_6$  alkyl groups, hydroxyl,  $-CHO$ ,  $-OR_8$ ,  $-COOH$ ,  $-CN$ ,  $-CO_2R_8$ ,  $-CONHR_8$ ,  $-CONR_8R_9$ ,  $-NH_2$ ,  $-NHR_8$ ,  $-N(R_8)_2$ ,  $-NH-CH_2-CH_2-N(CH_3)_2$ ,  $-NHCOR_8$ , morpholino, nitro,  $SO_3H$ ,



R<sub>8</sub> and R<sub>9</sub> being selected from C<sub>1</sub>-C<sub>6</sub> alkyl groups and Ar being a C<sub>6</sub>-C<sub>14</sub> aryl group.

3. (currently amended) Compounds according to claim 1, which are compounds of formulae I or Ia in which:

R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub> and R<sub>5</sub> are selected from hydrogen, halogens, C<sub>1</sub>-C<sub>6</sub> alkyl groups, hydroxyl, -OR<sub>8</sub>, NO<sub>2</sub>, -NH<sub>2</sub>, -NHR<sub>8</sub>, -NH(R<sub>8</sub>)<sub>2</sub>, -NH-CH<sub>2</sub>-CH<sub>2</sub>-N(CH<sub>3</sub>)<sub>2</sub>, -NH-CH<sub>2</sub>-CH<sub>2</sub>-Cl, -NHCOR<sub>8</sub>, R<sub>8</sub> being selected from C<sub>1</sub>-C<sub>6</sub> alkyl groups,

- R<sub>6</sub> is selected from hydrogen, -(CH<sub>2</sub>)<sub>n</sub>R<sub>10</sub> groups, with R<sub>10</sub> being selected from halogens, the -O-CO-CH<sub>3</sub> group, C<sub>1</sub>-C<sub>6</sub> alkyl groups and NR<sub>12</sub>R<sub>13</sub> groups with R<sub>12</sub> and R<sub>13</sub> selected, independently of one another, from hydrogen or C<sub>1</sub>-C<sub>6</sub> alkyl, benzyl or -(CH<sub>2</sub>)<sub>n</sub>R<sub>14</sub> groups, with R<sub>14</sub> being selected from halogens or (C<sub>1</sub>-C<sub>6</sub>) alkoxy and -N(CH<sub>3</sub>)<sub>2</sub> groups and n between 1 and 6,

- R<sub>7</sub> selected from hydrogen or ~~groups of type~~ (C<sub>1</sub>-C<sub>6</sub>) alkyl, benzyl, -NR<sub>15</sub>R<sub>16</sub> with R<sub>15</sub> and R<sub>16</sub> selected from hydrogen, ~~groups of type~~ C<sub>1</sub>-C<sub>6</sub> alkyl and benzyl, and -(CH<sub>2</sub>)<sub>n</sub>R<sub>17</sub>, with R<sub>17</sub> selected from hydrogen, halogens or -OH or (C<sub>1</sub>-C<sub>6</sub>) alkoxy groups and n between 1 and 6,

and the addition of salts of these compounds with pharmaceutically acceptable acids.

4. (original) Compounds according to claim 3, which are compounds of formulae I or Ia in which at least one of the R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub> and R<sub>5</sub> groups is an OR<sub>8</sub> group.

5. (original) Compounds according to claim 3, which are compounds of formulae I or Ia in which:

R<sub>1</sub> is selected from hydrogen, halogens or hydroxyl, methoxy, nitro, -NH<sub>2</sub>, -NHCH<sub>3</sub>, -NH-CH<sub>2</sub>-CH<sub>2</sub>-N(CH<sub>3</sub>)<sub>2</sub>, -NH-CH<sub>2</sub>-CH<sub>2</sub>-Cl or -NHCOCH<sub>3</sub> groups,

R<sub>2</sub> is hydrogen,

R<sub>3</sub> and R<sub>5</sub> are selected from hydrogen or hydroxyl or methoxy groups

and the addition salts of these compounds with pharmaceutically acceptable acids.

6. (original) Compounds according to claim 3, which are compounds of formula (I):

11-methoxy-7H-pyrido[4,3,2-de][1,7]phenanthroline-7-one,

11-chloro-7H-pyrido[4,3,2-de][1,7]phenanthroline-7-one,

4-methoxy-7H-pyrido[4,3,2-de][1,7]phenanthroline-7-one,

4,11-dimethoxy-7H-pyrido[4,3,2-de][1,7]-phenanthroline-7-one,

4,9-dimethoxy-7H-pyrido[4,3,2-de][1,7]-phenanthroline-7-one,

9-methoxy-7H-pyrido[4,3,2-de][1,7]phenanthroline-7-one,  
9,11-dimethoxy-7H-pyrido[4,3,2-de][1,7]-phenanthroline-7-one,

3-acetoxymethyl-7H-pyrido[4,3,2-de][1,7]-phenanthroline-7-one,

3-acetoxymethyl-9-methoxy-7H-pyrido[4,3,2-de]-[1,7]phenanthroline-7-one,

2-(2-chloroethyl)-7H-pyrido[4,3,2-de][1,7]-phenanthroline-7-one,

and the addition salts of these compounds with pharmaceutically acceptable acids.

7. (original) Compounds according to claim 3, which are compounds of formula (Ia):

8-methoxy-7H-pyrido[4,3,2-de][1,10]phenanthroline-7-one,

8-chloro-7H-pyrido[4,3,2-de][1,10]phenanthroline-7-one,  
4-methoxy-7H-pyrido[4,3,2-de][1,10]phenanthroline-7-one,

4,8-dimethoxy-7H-pyrido[4,3,2-de][1,10]-phenanthroline-7-one,

4,10-dimethoxy-7H-pyrido[4,3,2-de][1,10]-phenanthroline-7-one,

10-methoxy-7H-pyrido[4,3,2-de][1,10]-phenanthroline-7-one,

8,10-dimethoxy-7H-pyrido[4,3,2-de][1,10]-phenanthroline-7-one,

3-acetoxymethyl-7H-pyrido[4,3,2-de][1,10]-phenanthroline-7-one,

3-acetoxymethyl-9-methoxy-7H-pyrido[4,3,2-de]-[1,10]phenanthroline-7-one,

2-(2-chloroethyl)-7H-pyrido[4,3,2-de][1,10]-phenanthroline-7-one,

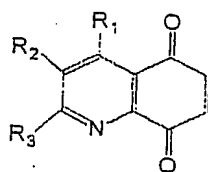
and the addition salts of these compounds with pharmaceutically acceptable acids.

8. (previously presented) Pharmaceutical composition comprising an effective amount of a compound selected from the compounds according to claim 1 for treating, by virtue of their cytotoxic properties, cancerous tumours and their metastases.

9. (canceled)

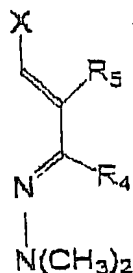
10. (previously presented) Process for the preparation of compounds according to claim 1, which consists in:

a) reacting, according to a hetero Diels-Alder reaction, a quinolinedione of formula:



IV

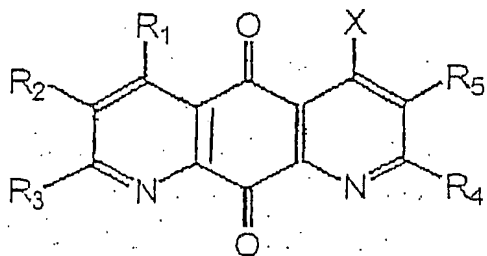
and an azadiene of formula



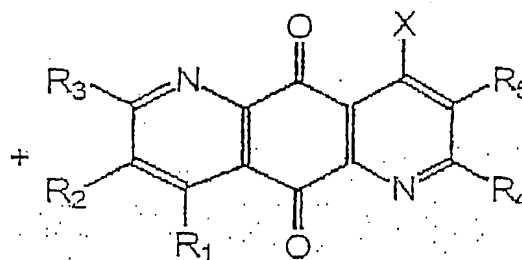
V

where  $X = CH_3$ ,

in order to obtain a mixture of compounds



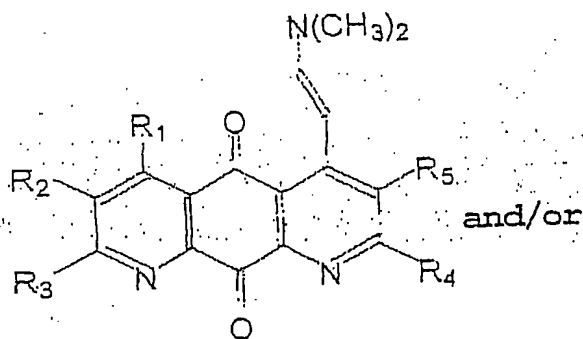
Formula II



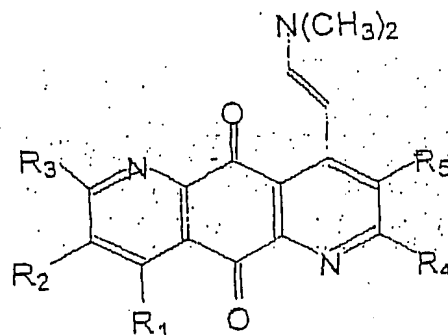
Formula IIa

b) optionally separating the compounds of formulae II and IIa,

c<sub>1</sub>) subsequently reacting a compound of formulae II and or IIa with dimethylformamide dimethyl acetal, in order to obtain an enamine of formula:



Formula III



Formula IIIa

then functionalizing the enamines, in order to introduce the  $R_6$  and/or  $R_7$  substituents, and cyclizing, in order to obtain the compounds of formulae I and/or Ia,

or

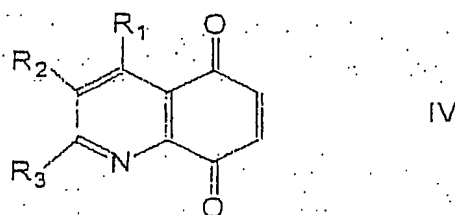
c<sub>2</sub>) functionalizing and cyclizing at the same time, in order to obtain the compounds of formulae I and/or Ia,

d) optionally separating the compounds of formulae I and Ia.

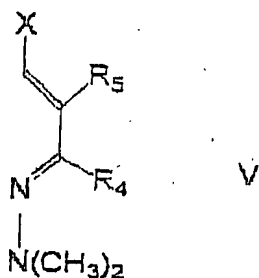
11. (previously presented) Process for the preparation of compounds according to claim 1 of formulae I or Ia in which  $R_6$  and  $R_7$  are hydrogen atoms, which consists:

a) in reacting, according to a hetero Diels-Alder reaction, a quinolinedione of formula:



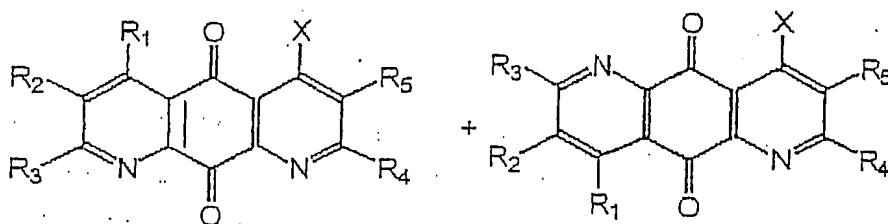


and an azadiene of formula



where X = CH<sub>2</sub>-CH<sub>2</sub>-NHBoc, wherein Boc corresponds to tert-butoxycarbonyl,

in order to obtain a mixture of compounds



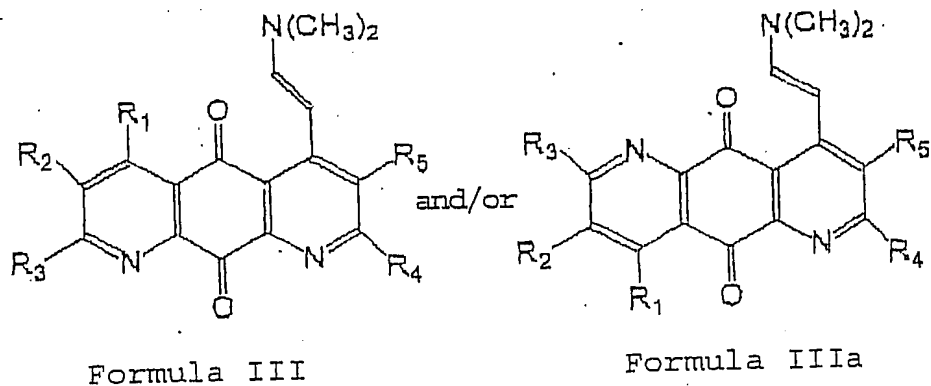
Formula II

Formula IIa

- b) optionally separating the compounds of formulae II and IIa,
- c) cyclizing a compound of formulae II and/or IIa, in order to obtain a compound of formulae I and/or Ia,
- d) optionally separating the compounds of formulae I or Ia.

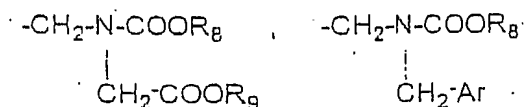
12. (canceled)

13. (previously presented) Enamine of formula:



in which:

$R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$  and  $R_5$  are selected from hydrogen, halogens,  $C_1$ - $C_6$  alkyl groups, hydroxyl,  $-CHO$ ,  $-OR_8$ ,  $-COOH$ ,  $-CN$ ,  $-CO_2R_8$ ,  $-CONHR_8$ ,  $-CONR_8R_9$ ,  $-NH_2$ ,  $-NHR_8$ ,  $-N(R_8)_2$ ,  $-NH-CH_2-CH_2-N(CH_3)_2$ ,  $-NH-CH_2-CH_2-Cl$ ,  $-NHCOR_8$ , morpholino, nitro,  $SO_3H$ ,



$R_8$  and  $R_9$  being selected from  $C_1$ - $C_6$  alkyl groups and phenyl ( $C_1$ - $C_4$ ) alkyl groups and  $Ar$  being a  $C_6$ - $C_{14}$  aryl group.

14. (currently amended) ~~The method according to claim 12~~  
A method for treating a solid tumour in a patient, which consists  
in administering, to said patient, an effective amount of a  
compound according to claim 1, and wherein said solid tumour  
includes and/or is involved in are selected from the group

consisting of cerebral tumours, lung cancers, ovarian tumours, breast tumours, endometrium cancers, colorectal cancers, prostate cancers, testicular tumours, ~~glioblastomas~~ glioblastomas, astrocytomas, non-cell-lung cancers, bladder cancers, carcinomas and adeno carcinomas.

15. (canceled)

16. (canceled)

17. (new) A method for treating a solid tumour in a patient, comprising administering to said patient an effective amount of a compound according to claim 1, and wherein said solid tumour is selected from the group consisting of cerebral tumours, lung cancers, ovarian tumours, breast tumours, endometrium cancers, colorectal cancers, prostate cancers, testicular tumours, glioblastomas, astrocytomas, non-cell-lung cancers, bladder cancers, carcinomas and adeno carcinomas.